

Monitoring Peri-Urban Growth and Land Use Dynamics with GIS and Remote Sensing Techniques: A Case Study of Burdwan City, India

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Abstract : The peri-urban interface is an area of transition where the urban and rural areas meet and interact. So the peri-urban areas, which is characterized by strong urban influence, easy access to markets, services and other inputs, are ready supplies of labour but distant from the land paucity and pollution related to urban growth. Hence, the present study is primarily aimed at quantifying the spatio-temporal pattern of land use/land cover change during the last three decades (i.e., 1987 to 2016) in the peri-urban area of Burdwan city. In the recent past, the morphology of the study region has rapid change due to high growth of population and establishment of industries. The change has predominantly taken place along the State and National Highway 2 (NH-2) and around the Burdwan Municipality for meeting both residential and commercial purposes. To ascertain the degree of change in land use and land cover, over the specified time, satellite imageries and topographical sheets are employed. The data is processed through appropriate software packages to arrive at a deduction that most of the land use changes have occurred by obliterating agricultural land & water bodies and substituting them by built area and industrial spaces. Geospatial analysis of study area showed that this area has experienced a steep increase (30%) of built-up areas and excessive decrease (15%) in croplands between 1987 and 2016. Increase in built-up areas is attributed to the increase of out-migration during this period from the core city. This study also examined social, economic and institutional factors that lead to this rapid land use change in peri-urban areas of the Burdwan city by carrying out a field survey of 250 households in peri-urban areas. The research concludes with an urgency for regulating land subdivisions in peri-urban areas to prevent haphazard land use development. It is expected that the findings of the study would go a long way in facilitating better policy making.

Keywords : growth, land use land cover, morphology, peri-urban, policy making

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